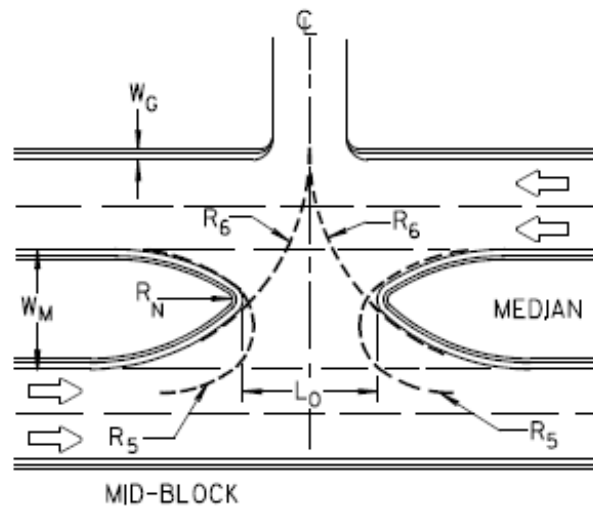
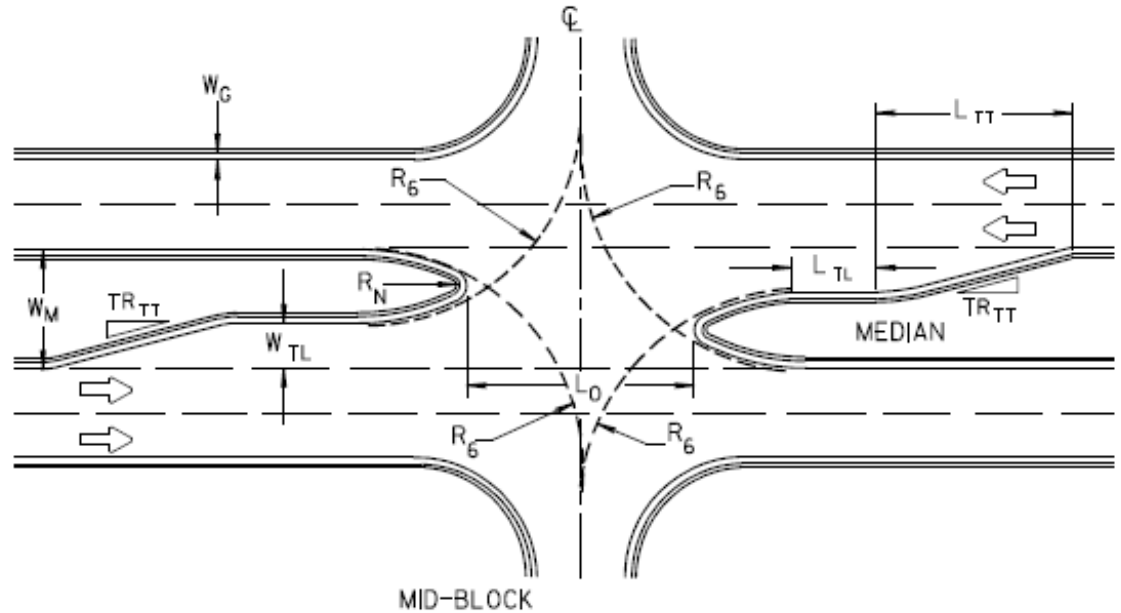


Urban Median Opening and Intersection Guidelines

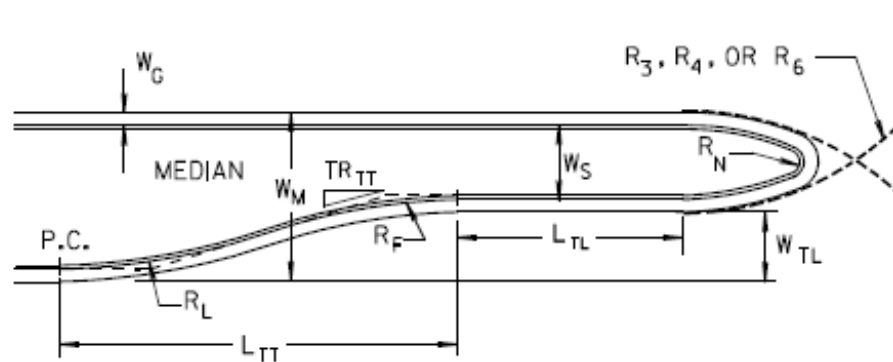
Design Feature	Designation	Reference	Minimum (1)	Desirable (1)
SPACING BETWEEN MIDBLOCK MEDIAN OPENINGS (CL to CL)	NA	NA	Median openings within the functional length of intersection are either not allowed or restricted. See FDM 11-25-20, section 20.4 for median opening location requirements and criteria	
LENGTH OF MEDIAN OPENING	L _O	Att. 5.2 & 5.3	See FDM 11-25-20	
NOSE RADII	R _N	Att. 5.2 & 5.3	1'	2'
TURNING RADII At Intersections				
Without islands	R ₃	Att. 5.3	--	60'
With islands	R ₄	Att. 5.3	--	75'
TURNING RADII At mid-block				
For U-turns	R ₅	Att. 5.2	40'	50'
For turns into driveways	R ₆	Att. 5.2	60'	--
TURN BAY ELEMENTS - TAPER				
Turn Bay Taper Length	L _{TT}	Att. 5.2 & 5.4	FDM 11-25-2, Att. 2.2	
Turn Bay Taper Rate	TR _{TT}	Att. 5.3		
Radius of connecting curves Straight Line Taper				
Radius	R _C	Att. 5.2(d) & 5.3	5'	10'
Radius of connecting curves Reverse Curve Taper				
Radius of lead curve	R _L	Att. 5.2(c)	200'	300'
Radius of final curve	R _F	Att. 5.2(c)	150'	200'
TURN BAY ELEMENTS – FULL WIDTH TURN LANE				
Length of Full Width Turning Lane	L _{TL}	Att. 5.2 & 5.3	FDM 11-25-2	
Width of Full Width Turning Lane	W _{TL}	Att. 5.2 & 5.3	See Table 5.2	
Turn Lane Offset from Edge of Travel Lane	W _{TO}			
Gutter Width				
Travel Lane	W _G	Att. 5.2 & 5.3	FDM 11-20-1	
Turn Bay Taper	W _G	Att. 5.2 & 5.3	Same as travel lane	
Full Width Turn Lane	W _G	Att. 5.2 & 5.3	1.0	2.0
Separator Width				
Between left turn lane and Opposing Travel Lane (curb face – curb face)	W _S	Att. 5.2 & 5.3	See Table 5.2	
MEDIAN WIDTH REQUIRED TO PROVIDE MEDIAN OPENINGS (1)				
Without Left Turn Lanes				
For turns into driveways	W _M	Att. 5.2	20'	24'
For U-turns	W _M	Att. 5.2	20'	30'
With Left Turn Lanes				
For left turns	W _M	Att. 5.2 & 5.3	See Table 5.2	See Table 5.2
For U-turns	W _M	Att. 5.2 & 5.3	30'	42'
(1) Measured between edges of median travel lanes (includes gutters).				



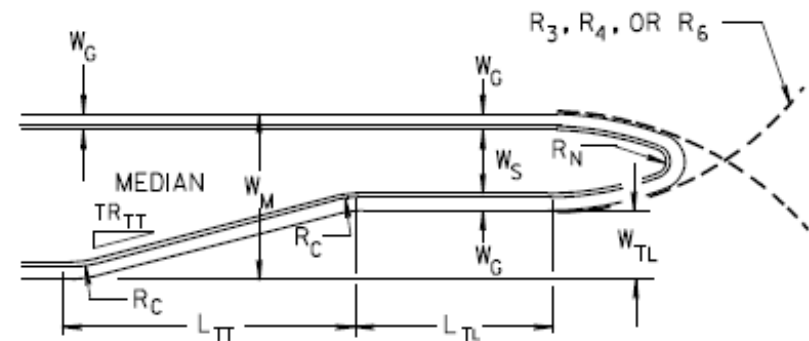
(a) MEDIAN OPENING WITHOUT LEFT TURN LANE



(b) MEDIAN OPENING WITH LEFT TURN LANE



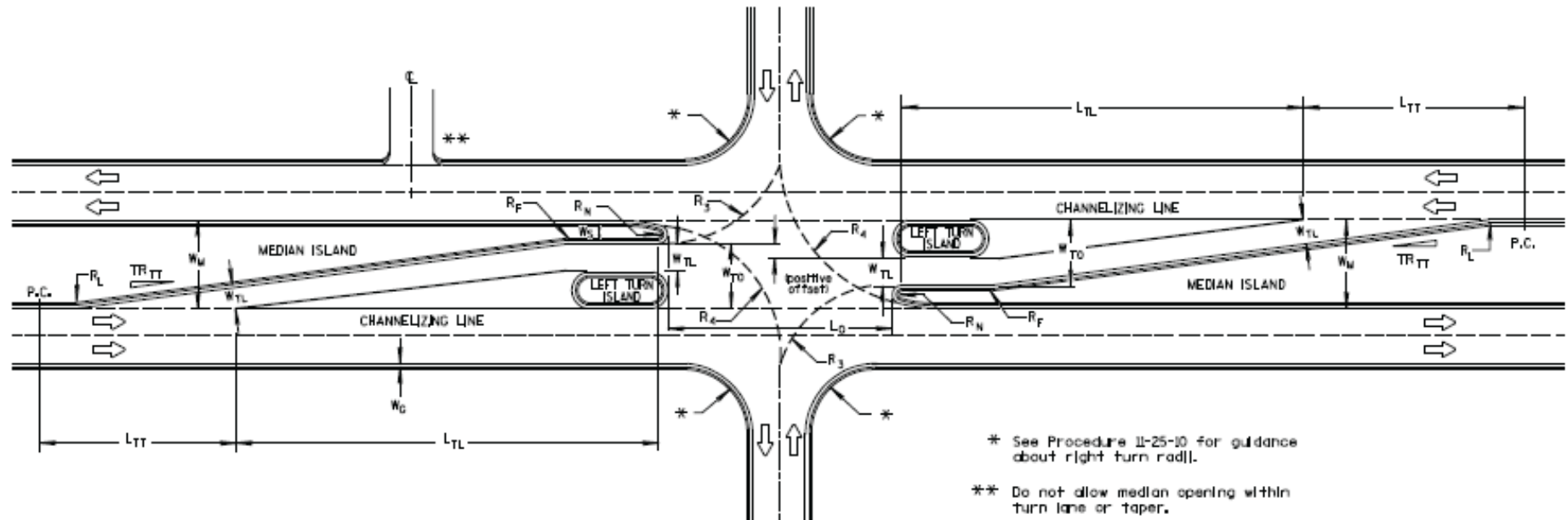
(c) REVERSE CURVE TAPER



(d) STRAIGHT LINE TAPER

MEDIAN OPENINGS AND LEFT TURN LANES IN URBAN ROADWAYS

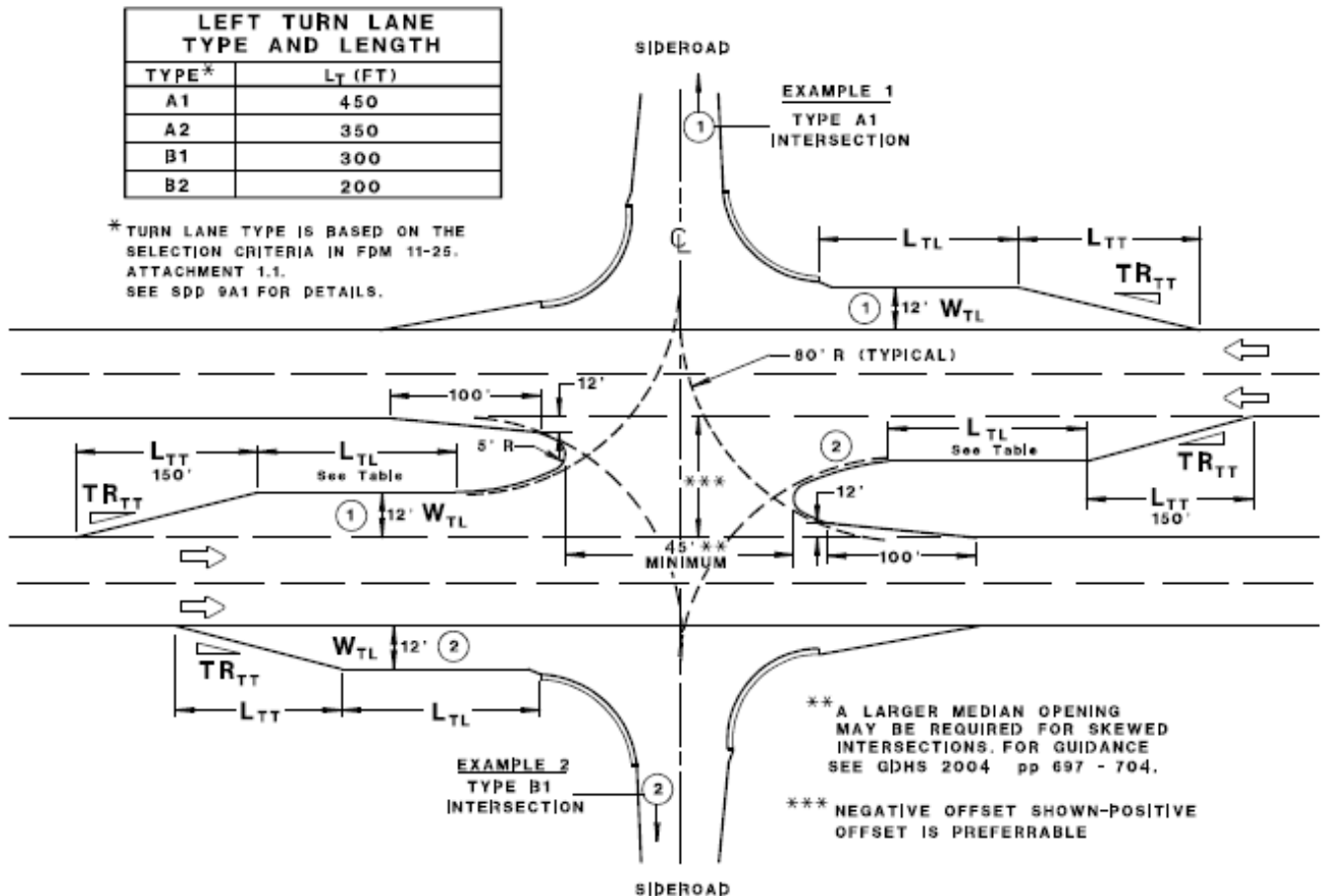
Details for Slotted Left Turn Lanes and Median Opening at Urban Intersections



THE LEFT TURN LANE AND THE RIGHT TURN LANE SERVING THE SAME SIDEROAD SHOULD BE THE SAME LENGTH, UNLESS ONE OF THE TURN LANES REQUIRES ADDITIONAL LENGTH FOR STORAGE.

EXAMPLE 1: LEFT TURN LANE ① AND RIGHT TURN LANE ① ARE BOTH 450-FT. LONG BECAUSE THE SELECTION CRITERIA FOR SIDEROAD ① CALLS FOR A TYPE A1 INTERSECTION.

EXAMPLE 2: LEFT TURN LANE ② AND RIGHT TURN LANE ② ARE BOTH 300-FT. LONG BECAUSE THE SELECTION CRITERIA FOR SIDEROAD ② CALLS FOR A TYPE B1 INTERSECTION.



MEDIAN OPENING AND TURN LANES ON RURAL HIGH SPEED 4-LANE DIVIDED HIGHWAYS